

2. (Amended) The patterning substrate according to claim 1, said banks being formed so as to satisfy relationship $a > d/4$.

3. (Twice Amended) The thin film element according to claim 1, said banks being formed to satisfy a relationship $c > t_0$ (where t_0 (μm) is film thickness of the thin film layer).

4. (Twice Amended) The thin film patterning substrate according to claim 1, said banks being formed so as to satisfy relationship $c > d/2b$.

5. (Twice Amended) The thin film patterning substrate according to claim 1, further comprising: at least upper surfaces of said banks being formed of an organic substance.

6. (Twice Amended) The thin film patterning substrate according to claim 1, further comprising: upper surfaces and side surfaces of said banks being formed of an organic substance.

7. (Twice Amended) The thin film patterning substrate according to claim 1, further comprising: said banks being formed in two layers including a lower-layer inorganic substance and an upper-layer organic substance.

8. (Amended) The thin film patterning substrate according to claim 7, further comprising: said banks being formed in two layers including a lower-layer inorganic substance and an upper-layer organic substance, and at least side surfaces of said inorganic substance are not covered by said organic substance.

9. (Twice Amended) The thin film patterning substrate according to claim 1, further comprising: said areas to be coated being an inorganic substance.

10. (Twice Amended) The thin film patterning substrate according to claim 1, further comprising: upper surfaces of upper portions of said banks having liquid droplet reservoir structures.

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11. (Twice Amended) The thin film patterning substrate according to claim 5, further comprising: surface treatment being performed so that an angle of contact of the organic substance surface forming said banks is 50° or greater, an angle of contact with the inorganic substance forming said banks is 20° to 50°, and an angle of contact of surfaces of said areas to be coated with said thin film liquid material is 30° or greater.

12. (Amended) The thin film patterning substrate according to claim 11, further comprising: said surface modification being effected by plasma treatment.

13. (Twice Amended) A thin film formation method for forming patterns of thin films by an ink jet method, comprising: using the thin film patterning substrate cited in claim 1.

15. (Amended) The thin film element according to claim 14, comprising: said thin film element being an organic EL element wherein organic thin films having light-emission colors selected from among red, green, and blue are independently patterned.

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16. (Amended) The thin film element according to claim 14, said thin film element being a color filter wherein organic thin films that transmit only light-emission selected from among red, green, and blue are independently patterned.

17. (Twice Amended) A display device, comprising: a thin film element cited in claim 1.

18. (Amended) An electronic display unit, comprising: the display device cited in claim 17 and a circuit device for said display device.

19. (Amended) A thin film patterning substrate, used for forming thin films in patterns by a dip process or spin-coating process, comprising:

a surface whereof are formed banks and areas to be coated, partitioned by said banks; and

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said banks having surfaces being formed of an organic substance, and said areas to be coated are formed of an inorganic substance.

20. (Amended) A thin film patterning substrate, used for forming thin films in patterns by a dip process or spin-coating process, comprising: a surface whereof are formed banks and areas to be coated, partitioned by said banks; and

said banks having upper surfaces and side surfaces being formed of an organic substance, and said areas to be coated are formed of an inorganic substance.

21. (Amended) A thin film patterning substrate, used for forming thin films in patterns by a dip process or spin-coating process, comprising:

a surface whereof are formed banks and areas to be coated, partitioned by said banks;

said banks being formed in two layers including a lower-layer inorganic substance and an upper-layer organic substance, and said areas to be coated are formed of an inorganic substance.

22. (Amended) The thin film patterning substrate according to claim 21, further comprising: said banks having side surfaces of a lower layer not covered by said organic substance.

23. (Twice Amended) The transistor patterning substrate according to claim 19, further comprising:

a surface treatment being performed so that an angle of contact of the organic substance surface forming said banks is 50° or greater, an angle of contact with the inorganic substance forming said banks is 20° to 50°, and an angle of contact of surfaces of said areas to be coated with said thin film liquid material is 30° or less.

24. (Amended) The thin film patterning substrate according to claim 23, said surface treatment being effected by plasma treatment.

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26. (Amended) The thin film formation method according to claim 25, comprising: using a liquid material in said dip process or said spin-coating process, having a surface tension of 30 dyne/cm or less.

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28. (Amended) A display device, comprising: the thin film element cited in claim 27.

29. (Amended) An electronic display unit, comprising: the display device cited in claim 28 and an electronic circuit for said display device.

30. (Amended) A thin film formation method for filling areas enclosed by banks with a liquid thin film material to form thin film layers, comprising:

forming said banks of an organic material on a bank formation surface configured of an inorganic material;

performing a prescribed surface treatment on said banks and said bank formation surface under certain conditions when said surface treatment has been performed, a degree of non-affinity for said liquid thin film material exhibited by said organic material becomes higher than that exhibited by said inorganic material; and

filling areas enclosed by banks subjected to said surface treatment with said liquid thin film material to form thin film layers.

31. (Amended) The thin film formation method according to claim 30, further comprising: said surface treatment is a reduced-pressure plasma treatment wherewith plasma irradiation is conducted in a reduced-pressure atmosphere, using as induction gas, a gas containing fluorine or a fluorine-based compound.

32. (Amended) The thin film formation method according to claim 30, further comprising: said surface treatment is an atmospheric-pressure plasma treatment wherewith plasma irradiation is conducted in an atmospheric-pressure atmosphere, using as induction gas, a gas containing fluorine or a fluorine-based compound.

33. (Twice Amended) The thin film formation method according to claim 31, further comprising: said certain conditions being that quantity of said fluorine-based compound is greater than that of oxygen.

34. (Amended) The thin film formation method according to claim 33, further comprising: said certain conditions are that quantity of said fluorine-based compound contained is set at 600 or less of total quantity of fluorine-based compound and oxygen.

35. (Twice Amended) The thin film formation method according to claim 31, further comprising: said gas used containing fluorine or a fluorine-based compound is a halogen gas such as CF_4 , SF_6 , or CHF_3 .

36. (Amended) The thin film formation method according to claim 30, further comprising: conditions for said surface treatment are set so that an angle of contact of said liquid thin film material with said bank formation surface becomes 20 degrees or less.

37. (Amended) The thin film formation method according to claim 30, further comprising: conditions for said surface treatment are set so that an angle of contact of said liquid thin film material with said bank formation surface becomes 50 degrees or greater.

38. (Amended) The thin film formation method according to claim 30, further comprising: said bank formation process forming said banks into two layers, including an upper layer and a lower layer.

39. (Amended) The thin film formation method according to claim 38, said bank formation method further comprising:

forming a lower layer film on said bank formation surface;
forming an upper layer on said lower layer film in conformity with areas wherein said banks are formed; and
etching and removing said lower layer film from areas where said upper layer is not provided, using said upper layer as a mask.

40. (Amended) The thin film formation process according to claim 38, said bank formation process further comprising:

forming a lower layer film on said bank formation surface;

exposing and developing said lower layer film in conformity with areas

wherein said lower bank layer is formed;

forming an upper layer film that covers said lower layer; and

exposing and developing said upper layer film in conforming with areas where said upper bank layer is formed.

41. (Amended) The thin film formation method according to claim 38, further comprising: said surface treatment setting affinity for said liquid thin film material in said lower bank layer at or below that of said pixel electrode and at or above that of said upper bank layer.

42. (Amended) The thin film formation method according to claim 38, further comprising: conditions of said surface treatment being set so that a surface of said upper bank layer subtends an angle of contact with said liquid thin film material of 50 degrees or greater.

43. (Amended) The thin film formation method according to claim 38, further comprising: conditions of said surface treatment being set so that surface of said lower bank layer subtends an angle of contact with said liquid thin film material that is within a range of 20 to 40 degrees.

44. (Twice Amended) The thin film formation method according to claim 30, further comprising: pixel electrodes being provided in areas enclosed by said banks, and said liquid thin film material is an organic semiconductor material for forming a thin film light emitting element.

45. (Amended) The thin film formation method according to claim 44, said pixel electrodes being ITO electrode films.

46. (Amended) The thin film formation method according to claim 30, said banks being an insulating organic material such as a polyimide.

47. (Amended) The thin film formation method according to claim 38, said lower bank layer being one of a silicon oxide film, a silicon nitride film, or amorphous silicon.

49. (Amended) A surface modification method for filling areas enclosed by banks formed on a substrate with a liquid thin film material, comprising:

performing a first process of an oxygen gas plasma treatment on said substrate whereon said banks are formed; and

performing thereon, consecutively, after said first process, a second process of a fluorine-based gas plasma treatment.

50. (Amended) The surface modification method according to claim 49, further comprising:

the plasma treatment in at least either said first process or said second process is an atmospheric-pressure plasma [treatment] conducted under atmospheric pressure.

51. (Amended) The surface modification method according to claim 49, further comprising:

the plasma treatment in at least either said first process or said second process is a reduced-pressure plasma [treatment] conducted under reduced pressure.

52. (Amended) A surface modification method for filling areas enclosed by banks formed on a substrate with a liquid thin film material, comprising:

performing a process of a fluorine-based gas plasma treatment on said substrate whereon said banks are formed.

53. (Amended) The surface modification method according to claim 52, further comprising:

said plasma treatment is a reduced-pressure plasma [treatment] performed under reduced pressure.

54. (Twice Amended) The surface modification method according to claim 49, said substrate being an inorganic substance.

55. (Twice Amended) The surface modification method according to claim 49, at least an upper surface of said banks being formed of an organic substance.

56. (Twice Amended) The surface modification method according to any claim 49, an upper surface and side surfaces of said banks being formed of an organic substance.

57. (Twice Amended) The surface modification method according to claim 49, further comprising: said banks being formed in two layers including a lower layer inorganic substance and an upper layer organic substance.

58. (Twice Amended) The surface modification method according to claim 49, further comprising: said banks being formed in two layers including a lower layer inorganic substance and an upper layer organic substance, and at least side surfaces of said inorganic substance are not covered by said organic substance.

59. (Amended) The surface modification according to claim 54, said substrate formed of said inorganic substance is made to exhibit liquid affinity.

60. (Twice Amended) The surface modification method according to claim 55, a surface of said organic substance forming said banks being made to exhibit liquid repellency.

61. (Amended) The surface modification according to claim 60, the surface of said organic substance forming said banks being Teflon-treated.

62. (Twice Amended) The surface modification method according to claim 49, a surface of said organic substance forming said banks being made to exhibit liquid repellence,

and a surface of said substrate formed of said inorganic substance is made to exhibit liquid affinity.

63. (Amended) The surface modification method according to claim 59, an angle of contact of said liquid thin film material for said substrate surface being 30 degrees or less.

64. (Amended) The surface modification method according to claim 60, an angle of contact of said liquid thin film material for surfaces of organic substance forming said banks being 50 degrees or greater.

65. (Amended) The surface modification method according to claim 62, an angle of contact of said liquid thin film material for said substrate surface is 30 degrees or less, and for surfaces of organic substance forming said banks being 50 degrees or greater.

66. (Twice Amended) The surface modification method according to claim 49, an angle of contact of said liquid thin film material for said substrate surface is 30 degrees or less, for surfaces of a lower layer forming said banks is 20 to 50 degrees, and for a surface of an organic substance forming said upper bank layer is 50 degrees or greater.

67. (Twice Amended) A thin film formation method for filling areas enclosed by banks formed on a substrate with a liquid thin film material and forming a thin film, comprising:

filling said areas enclosed by said banks on said substrate subjected to surface modification as cited in claim 49 with said liquid thin film material by an ink jet method, immediately after said surface modification.

68. (Twice Amended) A thin film formation method for filling areas enclosed by banks formed on a substrate with a liquid thin film material and forming a thin film, comprising:

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filling said areas enclosed by said banks on said substrate subjected to surface modification as cited in claim 49 with said liquid thin film material by a spin-coating method or dip method, etc., immediately after said surface modification.

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70. (Amended) The display device according to claim 69, said display device being a color filter.

71. (Amended) The display device according to claim 69, said display device being an organic EL element.

72. (Twice Amended) A manufacturing method for a display device, a thin film or films being formed by the thin film formation method cited in claim 67.

73. (Amended) The display device manufacturing method according to claim 69, said display device being a color filter.

74. (Amended) The display device manufacturing method according to claim 69, said display device being an organic EL element.

75. (Amended) The patterning substrate according to claim 1, a horizontal shape of portions enclosed by said banks being circular or elliptical.

76. (Amended) A thin film patterning substrate having a substrate and banks formed on said substrate in a prescribed pattern, openings in said banks being formed in a ring shape.

77. (Amended) The patterning substrate according to claim 76, openings in said banks being formed in a circular or elliptical shape.

78. (Amended) An EL element having a substrate, banks of a prescribed pattern shape formed on said substrate, and thin films of a light emitting material in areas enclosed by said banks, a shape of openings in said banks being formed in a ring shape.

79. (Amended) The EL element according to claim 78, characterized in that a shape of an opening in said ring shape is circular or elliptical.